

In the Claims

Cancel claims 1-8, and add the following new Claims:

CM \ 9. An apparatus for temperature control of an article having opposite substantially planar outer surfaces in an evacuated environment, comprising:

5 91 a heat exchanging structure, said structure having at least a stationary heat sink having a substantially planar surface disposed within a vacuum chamber;

91 transfer means for moving the article into and out of a position with an outer surface thereof adjacent to and substantially parallel with said planar surface of said heat sink;

10 91 said heat sink being spaced a predetermined distance apart from an article ~~in position~~ <sup>which distanced</sup> sufficient to permit the positioning and removal of said article from a parallel relationship with the surface of the heat sink without contacting said heat sink;

15 91 said predetermined distance being further selected to permit a substantial convective/conductive heat transfer between said article and said heat sink; and

91 means for providing a high conductivity gas between said heat sink and said article at a pressure significantly above that of said vacuum chamber, yet substantially below that of the atmosphere.

2 10. The apparatus of claim 9 wherein said predetermined distance from said facing surface of said heat sink to said facing surface

of said article is generally between 0.05 to 0.25 in.

*3* ~~11.~~ The apparatus of Claim 9 wherein said heat sink includes means for cooling said heat sink.

*12.* A method for temperature control of an article having opposite substantially planar outer surfaces in an evacuated environment, comprising:

*5* *Pl* spacing a heat sink having a substantially planar outer surface in a parallel and facing relationship with an outer surface of said article, said heat sink being operatively mounted within a processing chamber adapted to operate at a pressure substantially less than atmospheric pressure;

*10* *Pl* placing the article without contacting the heat sink a predetermined distance apart and in a parallel relationship with said heat sink, said article being positioned close enough to permit a substantial convective/conductive heat transfer from between said article and said heat sink;

*3-15* *Pl* controlling the temperature of said heat sink to a predetermined level; *Cold compared to the wafer*

*Pl* introducing a high thermal conductivity gas between said heat sink and said article at a pressure significantly above that of said processing chamber, yet substantially below that of atmosphere to facilitate the heat transfer between said substrate and said heat sink; and

*20* *Pl* removing said article from said processing chamber after said article attains a predetermined temperature.